

**BEST AVAILABLE COPY**Docket No. 740819-337  
Application No. 09/504,782  
Page 2**AMENDMENTS TO THE CLAIMS:**

The following listing of the claims replaces all prior versions, and listings, of the claims in the application:

1. (Currently Amended) A semiconductor laser device comprising:  
a contact layer, which is made of a nitride semiconductor of a first conductivity type and is formed over a substrate;  
a first cladding layer, which is made of a nitride semiconductor of  $[[a]]$  the first conductivity type and is formed over a substrate the contact layer;  
an active layer, which is made of  $\text{In}_y\text{Ga}_{1-y}\text{N}$  and is formed over the first cladding layer;  
a second cladding layer, which is made of still another nitride semiconductor of a second conductivity type and is formed over the active layer; and  
an  $\text{In}_x\text{Ga}_{1-x}\text{N}$  layer of the first conductivity type is formed between the substrate contact layer and the first cladding layer,  
wherein  $0 < x < 1$ ,  $0 < y < 1$  and  $x \geq y$  in the composition of  $\text{In}$ .
2. (Previously presented) The device of claim 1, wherein the  $\text{In}_x\text{Ga}_{1-x}\text{N}$  layer is formed in contact with the first cladding layer.
3. (Canceled)
4. (Previously Presented) A semiconductor laser device comprising:  
a first cladding layer, which is made of a nitride semiconductor of a first conductivity type and is formed over a substrate;  
an active layer, which is made of  $\text{In}_y\text{Ga}_{1-y}\text{N}$  and is formed over the first cladding layer;  
a second cladding layer, which is made of still another nitride semiconductor of a second conductivity type and is formed over the active layer;  
an electrode formed over the second cladding layer; and  
an  $\text{In}_x\text{Ga}_{1-x}\text{N}$  layer of the second conductivity type is formed between the second cladding layer and the electrode,  
wherein  $0 < x < 1$ ,  $0 < y < 1$  and  $x \geq y$  in the composition of  $\text{In}$ .

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5. (Previously Presented) The device of Claim 4, wherein the  $\text{In}_x\text{Ga}_{1-x}\text{N}$  layer is formed in contact with the second cladding layer.

6. (Previously Presented) The device of Claim 4, wherein the  $\text{In}_x\text{Ga}_{1-x}\text{N}$  layer is formed in contact with the electrode.

7. (Withdrawn) A semiconductor laser device comprising a laser diode body, the laser diode body including: a first cladding layer, which is made of a nitride semiconductor of a first conductivity type and is formed over a substrate; an active layer, which is made of another nitride semiconductor and is formed over the first cladding layer; and a second cladding layer, which is made of still another nitride semiconductor of a second conductivity type and is formed over the active layer,

wherein a spontaneous emission protective film for absorbing or reflecting spontaneous emission that has been radiated from the active layer is formed on a surface of the substrate, the surface being opposite to another surface of the substrate over which the active layer is located.

8. (Withdrawn) The device of Claim 7, wherein the spontaneous emission protective film is made of silicon or a metal containing gold.

9. (Withdrawn) A semiconductor laser device comprising a laser diode body, the laser diode body including: a first cladding layer, which is made of a nitride semiconductor of a first conductivity type and is formed over a substrate; an active layer, which is made of another nitride semiconductor and is formed over the first cladding layer; and a second cladding layer, which is made of still another nitride semiconductor of a second conductivity type and is formed over the active layer,

wherein spontaneous emission protective films for absorbing or reflecting spontaneous emission that has been radiated from the active layer are formed on an emissive end facet of the laser diode body, except for a portion of the active layer from which laser radiation is emitted, and on a reflective end facet of the laser diode body, the reflective end facet facing the emissive end facet.

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10. (Withdrawn) The device of Claim 9, wherein the spontaneous emission protective films are made of silicon or a metal containing gold.

11. (Withdrawn) A semiconductor laser device comprising a laser diode body, the laser diode body including: a first cladding layer, which is made of a nitride semiconductor of a first conductivity type and is formed over a substrate; an active layer, which is made of another nitride semiconductor and is formed over the first cladding layer; and a second cladding layer, which is made of still another nitride semiconductor of a second conductivity type and is formed over the active layer,

wherein spontaneous emission protective films for absorbing or reflecting spontaneous emission that has been radiated from the active layer are formed on side faces of the laser diode body, the side faces being parallel to a direction in which the laser radiation is emitted.

12. (Withdrawn) The device of Claim 11, wherein the spontaneous emission protective films are made of silicon or a metal containing gold.

13. (Withdrawn) A semiconductor laser device comprising:  
a first cladding layer, which is made of a nitride semiconductor of a first conductivity type and is formed over a substrate;  
an active layer, which is made of another nitride semiconductor and is formed over the first cladding layer;  
a second cladding layer, which is made of still another nitride semiconductor of a second conductivity type and is formed over the active layer; and  
an electrode, which is formed over the second cladding layer and injects striped current into the active layer,  
wherein a recess is formed in the active layer beside and along a region of the active layer to which the striped current is injected, and  
wherein the recess is filled in with a spontaneous-emission-absorbing member for absorbing spontaneous emission that has been radiated from the active layer.

14. (Withdrawn) The device of Claim 13, wherein the spontaneous-emission-absorbing member is made of silicon or a metal containing gold.

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15. (Withdrawn) A semiconductor laser device comprising a laser diode body, the laser diode body including: a first cladding layer, which is made of a nitride semiconductor of a first conductivity type and is formed over a substrate; an active layer, which is made of another nitride semiconductor and is formed over the first cladding layer; and a second cladding layer, which is made of still another nitride semiconductor of a second conductivity type and is formed over the active layer,

wherein a spontaneous emission protective member for absorbing or reflecting spontaneous emission that has been radiated from the active layer is formed on or over a surface of the substrate, which is opposite to another surface of the substrate over which the active layer is located, and

wherein another spontaneous emission protective member is formed to be spaced apart from at least one side face of the laser diode body.

16. (Withdrawn) The device of Claim 15, wherein the substrate is made of sapphire, silicon carbide or gallium nitride.

17. (Previously Presented) An optical disk apparatus comprising the semiconductor laser device of claim 1.

18. (Previously Presented) An optical disk apparatus comprising the semiconductor laser device of claim 4.

19. (Withdrawn) An optical disk apparatus comprising:  
a semiconductor laser device;  
a condensing optical system for condensing laser radiation that has been emitted from the semiconductor laser device on a storage medium on which data has been recorded; and  
a photodetector for detecting the laser radiation that has been reflected from the storage medium,

wherein the semiconductor laser device comprises a laser diode body, the laser diode body including: a first cladding layer, which is made of a nitride semiconductor of a first conductivity type and is formed over a substrate; an active layer, which is made of another nitride semiconductor and is formed over the first cladding layer; and a second

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cladding layer, which is made of still another nitride semiconductor of a second conductivity type and is formed over the active layer, and

wherein a spontaneous emission protective film for absorbing or reflecting spontaneous emission that has been radiated from the active layer is formed on a surface of the substrate, the surface being opposite to another surface of the substrate over which the active layer is located.

20. (Withdrawn) An optical disk apparatus comprising:

a semiconductor laser device;

a condensing optical system for condensing laser radiation that has been emitted from the semiconductor laser device on a storage medium on which data has been recorded; and

a photodetector for detecting the laser radiation that has been reflected from the storage medium,

wherein the semiconductor laser device comprises a laser diode body, the laser diode body including: a first cladding layer, which is made of a nitride semiconductor of a first conductivity type and is formed over a substrate; an active layer, which is made of another nitride semiconductor and is formed over the first cladding layer; and a second cladding layer, which is made of still another nitride semiconductor of a second conductivity type and is formed over the active layer, and

wherein spontaneous emission protective films for absorbing or reflecting spontaneous emission that has been radiated from the active layer are formed on an emissive end facet of the laser diode body, except for a portion of the active layer from which the laser radiation is emitted, and on a reflective end facet of the laser diode body, the reflective end facet facing the emissive end facet.

21. (Withdrawn) An optical disk apparatus comprising:

a semiconductor laser device;

a condensing optical system for condensing laser radiation that has been emitted from the semiconductor laser device on a storage medium on which data has been recorded; and

a photodetector for detecting the laser radiation that has been reflected from the storage medium,

wherein the semiconductor laser device comprises a laser diode body, the laser diode body including: a first cladding layer, which is made of a nitride semiconductor of a

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first conductivity type and is formed over a substrate; an active layer, which is made of another nitride semiconductor and is formed over the first cladding layer; and a second cladding layer, which is made of still another nitride semiconductor of a second conductivity type and is formed over the active layer,

wherein spontaneous emission protective films for absorbing or reflecting spontaneous emission that has been radiated from the active layer are formed on side faces of the laser diode body, the side faces being parallel to a direction in which the laser radiation is emitted.

22. (Withdrawn) An optical disk apparatus comprising:

a semiconductor laser device;

a condensing optical system for condensing laser radiation that has been emitted from the semiconductor laser device on a storage medium on which data has been recorded; and  
a photodetector for detecting the laser radiation that has been reflected from the storage medium,

wherein the semiconductor laser device comprises:

a first cladding layer, which is made of a nitride semiconductor of a first conductivity type and is formed over a substrate;

an active layer, which is made of another nitride semiconductor and is formed over the first cladding layer;

a second cladding layer, which is made of still another nitride semiconductor of a second conductivity type and is formed over the active layer; and

an electrode, which is formed over the second cladding layer and injects striped current into the active layer,

wherein a recess is formed in the active layer beside and along a region of the active layer to which the striped current is injected, and

wherein the recess is filled in with a spontaneous-emission-absorbing member for absorbing spontaneous emission that has been radiated from the active layer.

23. (Withdrawn) An optical disk apparatus comprising:

a semiconductor laser device;

a condensing optical system for condensing laser radiation that has been emitted from the semiconductor laser device on a storage medium on which data has been recorded; and

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a photodetector for detecting the laser radiation that has been reflected from the storage medium,

wherein the semiconductor laser device comprises: a laser diode body, the laser diode body including: a first cladding layer, which is made of a nitride semiconductor of a first conductivity type and is formed over a substrate; an active layer, which is made of another nitride semiconductor and is formed over the first cladding layer; and a second cladding layer, which is made of still another nitride semiconductor of a second conductivity type and is formed over the active layer, and

wherein a spontaneous emission protective member for absorbing or reflecting spontaneous emission that has been radiated from the active layer is formed on or over a surface of the substrate, which is opposite to another surface of the substrate over which the active layer is located, and

wherein another spontaneous emission protective member is formed to be spaced apart from at least one side face of the laser diode body.

24. (Currently Amended) An optical integrated unit comprising ~~the~~ a semiconductor laser device of claim 1 comprising:

a contact layer, which is made of a nitride semiconductor of a first conductivity type and is formed over a substrate;

a first cladding layer, which is made of a nitride semiconductor of the first conductivity type and is formed over the contact layer;

an active layer, which is made of  $\text{In}_y\text{Ga}_{1-y}\text{N}$  and is formed over the first cladding layer;

a second cladding layer, which is made of still another nitride semiconductor of a second conductivity type and is formed over the active layer; and

an  $\text{In}_x\text{Ga}_{1-x}\text{N}$  layer of the first conductivity type is formed between the contact layer and the first cladding layer,

wherein  $0 < x < 1$ ,  $0 < y < 1$  and  $x \geq y$  in the composition of  $\text{In}$ .

25. (Currently Amended) An optical integrated unit comprising ~~the~~ a semiconductor laser device of claim 4 comprising:

a first cladding layer, which is made of a nitride semiconductor of a first conductivity type and is formed over a substrate;

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an active layer, which is made of  $\text{In}_y\text{Ga}_{1-y}\text{N}$  and is formed over the first cladding layer;

a second cladding layer, which is made of still another nitride semiconductor of a second conductivity type and is formed over the active layer;

an electrode formed over the second cladding layer; and

an  $\text{In}_x\text{Ga}_{1-x}\text{N}$  layer of the second conductivity type is formed between the second cladding layer and the electrode.

wherein  $0 < x < 1$ ,  $0 < y < 1$  and  $x > y$  in the composition of  $\text{In}$ .

26. (Withdrawn) An optical integrated unit comprising:

a semiconductor laser device mounted on a support member made of a semiconductor; and

a photodetector, which is formed on the support member and detects a reflected part of laser radiation that has been emitted from the semiconductor laser device,

wherein the semiconductor laser device comprises a laser diode body, the laser diode body including: a first cladding layer, which is made of a nitride semiconductor of a first conductivity type and is formed over a substrate; an active layer, which is made of another nitride semiconductor and is formed over the first cladding layer; and a second cladding layer, which is made of still another nitride semiconductor of a second conductivity type and is formed over the active layer, and

wherein a spontaneous emission protective film for absorbing or reflecting spontaneous emission that has been radiated from the active layer is formed on a surface of the substrate, the surface being opposite to another surface of the substrate over which the active layer is located.

27. (Withdrawn) An optical integrated unit comprising:

a semiconductor laser device mounted on a support member made of a semiconductor; and

a photodetector, which is formed on the support member and detects a reflected part of laser radiation that has been emitted from the semiconductor laser device,

wherein the semiconductor laser device comprises a laser diode body, the laser diode body including: a first cladding layer, which is made of a nitride semiconductor of a first conductivity type and is formed over a substrate; an active layer, which is made of



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another nitride semiconductor and is formed over the first cladding layer; and a second cladding layer, which is made of still another nitride semiconductor of a second conductivity type and is formed over the active layer, and

wherein spontaneous emission protective films for absorbing or reflecting spontaneous emission that has been radiated from the active layer are formed on an emissive end facet of the laser diode body, except for a portion of the active layer from which the laser radiation is emitted, and on a reflective end facet of the laser diode body, the reflective end facet facing the emissive end facet.

28. (Withdrawn) An optical integrated unit comprising:

a semiconductor laser device mounted on a support member made of a semiconductor; and

a photodetector, which is formed on the support member and detects a reflected part of laser radiation that has been emitted from the semiconductor laser device,

wherein the semiconductor laser device comprises a laser diode body, the laser diode body including: a first cladding layer, which is made of a nitride semiconductor of a first conductivity type and is formed over a substrate; an active layer, which is made of another nitride semiconductor and is formed over the first cladding layer; and a second cladding layer, which is made of still another nitride semiconductor of a second conductivity type and is formed over the active layer,

wherein spontaneous emission protective films for absorbing or reflecting spontaneous emission that has been radiated from the active layer are formed on side faces of the laser diode body, the side faces being parallel to a direction in which the laser radiation is emitted.

29. (Withdrawn) An optical integrated unit comprising:

a semiconductor laser device mounted on a support member made of a semiconductor; and

a photodetector, which is formed on the support member and detects a reflected part of laser radiation that has been emitted from the semiconductor laser device,

wherein the semiconductor laser device comprises:

a first cladding layer, which is made of a nitride semiconductor of a first conductivity type and is formed over a substrate;

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an active layer, which is made of another nitride semiconductor and is formed over the first cladding layer;

a second cladding layer, which is made of still another nitride semiconductor of a second conductivity type and is formed over the active layer; and

an electrode, which is formed over the second cladding layer and injects striped current into the active layer,

wherein a recess is formed in the active layer beside and along a region of the active layer to which the striped current is injected, and

wherein the recess is filled in with a spontaneous-emission-absorbing member for absorbing spontaneous emission that has been radiated from the active layer.

30. (Withdrawn) An optical integrated unit comprising:

a semiconductor laser device mounted on a support member made of a semiconductor; and

a photodetector, which is formed on the support member and detects a reflected part of laser radiation that has been emitted from the semiconductor laser device,

wherein the semiconductor laser device comprises: a laser diode body, the laser diode body including: a first cladding layer, which is made of a nitride semiconductor of a first conductivity type and is formed over a substrate; an active layer, which is made of another nitride semiconductor and is formed over the first cladding layer; and a second cladding layer, which is made of still another nitride semiconductor of a second conductivity type and is formed over the active layer, and

wherein a spontaneous emission protective member for absorbing or reflecting spontaneous emission that has been radiated from the active layer is formed on or over a surface of the substrate, which is opposite to another surface of the substrate over which the active layer is located, and

wherein another spontaneous emission protective member is formed to be spaced apart from at least one side face of the laser diode body.

31-35. (Canceled)

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